

## Claims

1. An apparatus comprising:
  - 5 a first Minimum Mean Square Error (MMSE) receiver having a signal as an input, wherein the signal was transmitted utilizing a transmit-diversity scheme; and
  - a second MMSE receiver having the signal as an input.
- 10 2. The apparatus of claim 1 further comprising a first despreader having an output from the first MMSE receiver as an input and despreading the output from the first MMSE receiver with a sector-specific long code to produce a first despread output.
- 15 3. The apparatus of claim 2 further comprising a second despreader having an output from the second MMSE receiver as an input and despreading the output with a second sector-specific long code to produce a second despread output.
- 20 4. The apparatus of claim 2 further comprising a second despreader having an output from the second MMSE receiver as an input and despreading the output with a the sector-specific long code to produce a second despread output.
- 25 5. The apparatus of claim 2 further comprising a third despreader having the first despread output as an input and further despreading the first despread output with a first Walsh code.
6. The apparatus of claim 5 further comprising a fourth despreader having the second despread output as an input and further despreading the second despread output with a second Walsh code.
- 30 7. The apparatus of claim 5 further comprising a fourth despreader having the second despread output as an input and further despreading the second despread output with the first Walsh code.

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performing a channel estimate for the received pilot signal;

updating a weighting vector for the pilot signal estimate in order to minimize the mean square error of the pilot signal estimate; and

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10. The method of claim 9 wherein the step of applying the weighting vector to the second channel comprises the step of applying the weighting vector to a traffic channel.

11. A minimum mean square error receiver (MMSE) comprising:
- a pilot channel input;
  - a second channel input;
  - an output comprising an estimate of the pilot channel, wherein the estimate
- 5 of the pilot channel is determined by applying a weighting vector to the pilot channel; and
- a second output comprising an estimate of the second channel, wherein the estimate of the second channel is determined by applying the weighting vector to the second channel.
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12. The MMSE receiver of claim 11 wherein the second channel input is a traffic channel input.
13. The MMSE receiver of claim 11 wherein the traffic channel input is a Code
- 15 Division Multiple Access (CDMA) traffic channel input.
14. The MMSE receiver of claim 12 wherein the pilot channel input is a CDMA
- 20 pilot channel input.